34

CLAIMS

We claim:

1.   A blend of rubber and a copolymer of an isoolefin, para-alkylstyrene and bromoalkylstyrene, wherein the copolymer comprises at least 9.5 but less than 20 weight percent of styrenics, and at least 0.2 but less than 1 mole percent bromoalkylstyrene.

2.   The blend of claim 1 wherein the copolymer comprises from 35 to 65 weight parts per hundred parts of total rubber.

3.   The blend of claim 1 wherein said styrenics comprise either para-alkylstyrene, brominated para-alkylstyrene, alpha-methylstyrene, brominated alpha-methylstyrene or combinations thereof.

4.   The blend of claim 1 wherein the isoolefin is isobutylene and the bromoalkylstyrene is para-bromomethylstyrene.

5.   The blend of claim 1 wherein the rubber is selected from the group consisting of natural rubber, styrene-butadiene rubber, polybutadiene rubber, polyisoprene rubber and combinations thereof.

6.   The blend of claim 1 wherein the copolymer comprises from 12 to 17 weight percent styrenics and from 0.4 to 0.8 mole percent bromoalkylstyrene.

7.   A blend of from 35 to 65 parts by weight of a rubber selected from the group consisting of natural rubber, styrene-butadiene rubber, polybutadiene rubber, polyisoprene rubber and combinations thereof, and from 35 to 65 parts by weight of a copolymer of isobutylene, from 9.5 up to 20 weight percent para-methylstyrene and from 0.2 to 1 mole percent para-bromomethylstyrene.

8.   The blend of claim 7 wherein the copolymer comprises from 12 to 17 weight percent para-methylstyrene and from 0.4 to 0.8 mole percent para-bromomethylstyrene.

9.   A tire sidewall comprising the blend of claim 1.

10. A tire sidewall comprising:

    a) an outer layer comprising the blend of claim 1; and

    b) an inner layer comprising a highly unsaturated rubber or blend of unsaturated rubbers.

11. A multi-layered tire sidewall comprising:

    a) an outer layer comprising a blend of an unsaturated rubber and a copolymer of an isoolefin and a para-alkylstyrene, and

    b) an inner layer optionally comprising a highly unsaturated rubber or blend of unsaturated rubbers,

wherein the copolymer comprises from 9.5 to 20 weight percent aromatic monomers and from 0.2 to 1.0 mole percent para-bromoalkylstyrene.

12. The blend of claim 1 wherein the quantities of said bromoalkylstyrene and said para-alkylstyrene satisfy the following formula:

$$X = [1.91 - (0.094 \times Y)] \pm 0.1$$

wherein "X" is mole percent bromoalkylstyrene and "Y" is weight percent para-alkylstyrene (between the limits of 9.5 to 20 weight percent).

13. The blend of claim 12 wherein said bromoalkylstyrene is para-bromomethylstyrene and said para-alkylstyrene is para-methylstyrene.

14. The blend of claim 13 wherein the mole percent para-bromomethylstyrene is 0.96 and the weight percent para-methylstyrene is 10.

15. The blend of claim 13 wherein the mole percent para-bromomethylstyrene is 0.84 and the weight percent para-methylstyrene is 12.5.

add a²